

BROOKHAVEN BULLETIN

Published by the Brookhaven National Laboratory Public Relations Office



February 6, 1976

Volume 30 - Number 5

Brookhaven And The Public In The Bicentennial Year

Open House '75 was such a smashing success that it will be repeated again this year. In fact, the response was so encouraging that the public will also be invited to two additional events: an Energy Fair and a series of Summer Saturday Tours. In support of these, the building containing the historic Brookhaven Graphite Research Reactor will be converted into an Exhibition Hall.

Open House '76 will be held on Saturday and Sunday, May 15-16, and will follow closely the successful format of last year. It will again be devoted to displaying the strength and variety of Brookhaven's current research programs. Many areas of the Laboratory will be open to enable the public to see for themselves the research in progress.

The Energy Fair will run from May 10 through May 16 overlapping on the 15th and 16th with Open House. The Fair will feature a variety of exhibits to demonstrate the range of activities supported by ERDA and by industrial concerns working in this field. The Fair will thus serve as a regional showcase for energy programs.

Berkner Hall will serve as headquarters and exhibits will be placed on the surrounding grounds and parking lots under bubble structures or tents. While the energy exhibits and the Exhibition Hall may be viewed by the public May 10 through May 16, the remainder of the Laboratory site will be open only during the weekend of Open House.

The Summer Saturday Tours will feature a guided bus tour of the site including a long stop at the Exhibit Hall. Although the public will receive literature on the Laboratory's research programs, the facilities will not be open on these days. A tentative schedule for the tours is as follows:

> June 5, 12, 19, 26 July 10, 17, 24, 31 August 7, 14, 21, 28

As an Exhibition Hall, the Brookhaven Graphite Research Reactor (BGRR) will afford a spectacular setting for exhibits and models displaying the work of the Laboratory and is of particular interest in itself for the historical background it provides.

The high window bays, many balconies of different size and elevation and remnants of experiments, offer an unusual setting for both the historical and futuristic view of science and engineering at Brookhaven.

The BGRR was the first major machine built at the Laboratory. It was the first "atomic pile" in the world built specifically for peacetime research. Groundbreaking took place in August 1947 and the reactor was commissioned in 1950. Pictures of the loading face graced many Laboratory publications and appeared in many other texts and magazines. A wide range of significant research was performed with it. Worth noting is that it was built before "containment" of nuclear reactors was mandated and it was decommissioned in 1970 without difficulty and without hazard. It remains a monument to the new age of science ushered in after World War II.

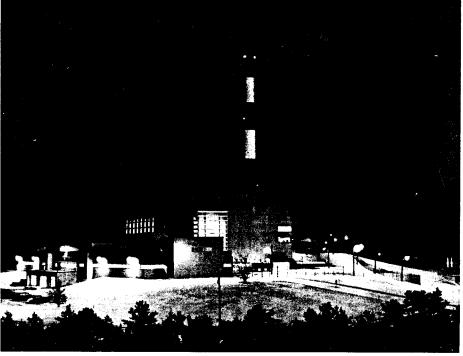
Several names for the Exhibition Hall have been suggested. One would be to call it "Exhibition" or "EXPO XXI", in anticipation of the 21st century, or recognizing the past, to call it the "Great Hall of the Sleeping Giant.'

The success of Open House '75 was due in no small part to the generous outpouring of energy and commitment by Laboratory employees. Their enthusiasm and spontaneity carried over to the many thousands of visitors who toured the site. In turn, those who interacted with the public were rewarded by the experience.

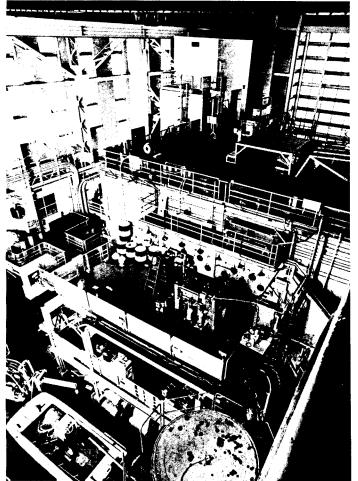
The events scheduled for 1976 will also depend on ideas and suggestions from all the staff. Of particular importance will be the identification of exhibits, memorabilia, research apparatus, literature and photographs which would be used in the Exhibition Hall.

In addition, individuals who have materials and apparatus in the BGRR Hall (Building 701) at the present time are asked to contact Carl Thien, Public Relations, on Ext. 2345, so that proper storage, disposal or display of the material can be arranged.

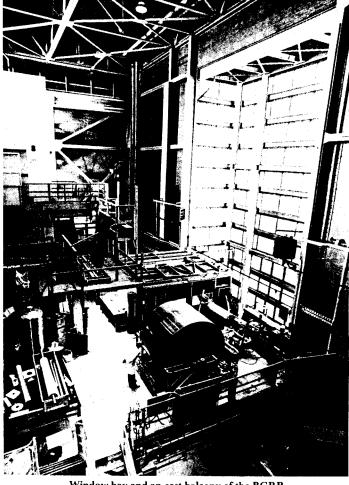
There is a great deal of work to be done in the next few months to put these ideas into successful operation, so please return the form on this page to the Brookhaven Bulletin, Building 460, by February 20.



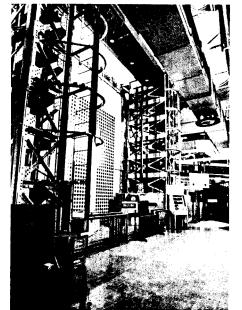
Exterior of the old Brookhaven Graphite Research Reactor which will begin a new life this year as a permanent Exhibition Hall featuring exhibits of past and present scientific research projects, as well as those envisioned for the future -photo by Walton



Experimental balconies on the



Window bay and an east balcony of the BGRR.



The loading face of the Brookhaven Graphite Research Reactor which has been photographed from every angle over the years and featured in many publications.

Open House '76	May 15-16			
Energy Fair -	May 10-16			
Saturday Tours - June 5 - Aug. 28				

I have a suggestion for:	Open House '76 Saturday Tours	The Energy Fair The Exhibition Hall			
I can provide exhibit materi	al as follows:				
I would be happy to assist in the following way:					
Name					
	••••••				

Please return to: Brookhaven Bulletin (Bldg. 460).

Brookhaven Bulletin February 6, 1976

Neon Lights Up Neutrinos Here

The high energy program at Brookhaven started into the new year with two "firsts" in particle physics. The first pulsed horn narrow band neutrino beam was successfully operated, and the 7-foot bubble chamber was tested using a filling of 90 percent pure neon.

In previously built neutrino beams at the Laboratory, the energy of the neutrinos has been spread out over a wide range (wideband beams), and thus, the energy of the incoming neutrino in any given neutrino interaction was not known. In certain experiments, however, it is crucial to know the energy of the incoming neutrinos. The narrow beam was designed to provide neutrinos whose energy is defined to a precision in the range of 10 to 15 percent. The energy of this neutrino beam can be varied from about 2 to 10 GeV.

The neutrinos are produced in two body decays of an energy selected beam of π and K mesons. The selection of the mesons is performed by two magnetic focusing horns



Two of the men responsible for the engineering and design of the narrow band neutrino beam, from left, Gary Smith and William Sims.

and an appropriate system of absorbing collimators. The horns consist of cylindrically symmetric electrical conductors, are pulsed with currents of the order of a quarter million amperes and produce circular magnetic fields around the axis of the beam. The shape of the conductor of the first horn is tailored so that π and K mesons of a unique energy are steered through the openings of the collimators, while all other particles are stopped. The second horn steers these selected mesons into a 60-meter long tunnel, where the mesons decay into muons and neutrinos. The muons are stopped by a 35-meter thick iron shield and the billion or so neutrinos easily pass through to the detector, the 7-foot neon filled bubble chamber.

The whole system was completed and installed in its final location in the neutrino



From left, Roger Baker and Robert Dagradi, supervisors at the 7' bubble chamber.

area, and tested with protons on the target on December 10. The test consisted of measuring the radial and energy distributions of the muons in the muon shield using an elaborate system of ionization counters installed and operated by C.L. Wang and others. The measured muon distributions



agreed well with what was expected from

the design of the beam.

As part of the electrical test, the horns withstood about 300,000 current pulses without any visible signs of deterioration.

The engineering, design, construction and installation of the beam was carried out by Lou Repeta, John Walker, Gary Smith, Bill Sims and others at the AGS.

The narrow band beam will first be used in experiments at the 7-foot bubble chamber filled with liquid neon to study in detail the neutral current interactions of neutrinos. Experiments will be conducted by a Brookhaven team headed by George Kalbfleisch and by a Columbia University group headed by Charles Baltay.

Since neon is expensive and scarce, the national laboratories agreed to pool their gas supplies of neon and deuterium for bubble chambers. A test of the 7-foot chamber filled with neon was conducted in December. A large quantity of crude neon gas was trucked to Brookhaven from FermiLab, and added to the supply of gas already on hand. After the crude neon was liquefied, most of the major impurity, helium, was boiled off in the process. The 15 tons of neon were then transferred to the 7-foot chamber and "topped off." Kalbfleisch estimates that this amount of neon is enough to light up all the neon signs in the world.

The chamber was then pulsed to try to make it sensitive to cosmic ray tracks passing through it. However, the chamber did not respond, as residual helium bubbled out of the solution under the reduced pressure of the expansion pulse. Several days of pulsing were required to purge the helium. Finally it was possible to expand the chamber properly, but no tracks were

The hydrogen content of the neon was less than three percent at this time and it was decided that more hydrogen would be needed to reach a suitable operating point. Hydrogen was added and the chamber became sensitive. The first cosmic ray tracks were observed December 21.

The chamber has so far been made sensitive only in the top two-thirds of the volume. The tests were terminated before Christmas in order to return the neon to FermiLab, where it will be used in their 15foot bubble chamber in February and March. Most of the neon was returned in liquid form in two deliveries in a special tank truck supplied by FermiLab. It is expected that the neon will be returned to Brookhaven in time to perform final tests and be used for a physics run of the 7-foot bubble chamber exposed to the narrow band neutrino beam, possibly this summer.

The operation of the 7-foot bubble chamber facility and the handling of the neon gas and liquid were expertly carried out by the Particle Detection Division of the AGS under the guidance of Robert Louttit and Albert Prodell, with the assistance of William Schneider and the crew of the 7foot chamber.

Ting Honored For "J" Particle Discovery

Cited "for powerful new experimental techniques that have extended the range of validity of quantum electrodynamics, determined the properties of vector mesons and culminated in the discovery of new particles of matter," Professor Samuel C.C. Ting of MIT has been selected a recipient of an E.O. Lawrence Memorial Award for

In the fall of 1974, Professor Ting headed the research group at Brookhaven which made headlines with the discovery of the "J" particle. Based on that discovery, laboratories in Italy, the United States and Germany have found a whole family of similar particles. These particles are characterized by their heavy mass, which is larger than three times the mass of the hydrogen atom, and seem to live about 1000 times longer than most of the ordinary subatomic particles.

Other 1975 winners of the Lawrence Award are:

Evan H. Appelman, Argonne National Laboratory

Charles E. Elderkin, Battelle Pacific Northwest Laboratory

William A. Lokke, Lawrence Livermore Laboratory

Burton Richter, Stanford Linear Accel-

The Awards will be presented at a ceremony in the State Department on Febru-

Radeka Honored

Veljko Radeka, head of the Instrumentation Division, has been elected a Fellow of the Institute of Electrical and Electronics Engineers, Inc. This distinction is given to those who have shown evidence of outstanding and extraordinary qualifications and experience in the field of electrical and electronics engineering. Only about two percent of the Institute's 175,000 members have been so honored. Radeka was singled out for "contributing to the theory and practice of nuclear detector signal proc-

French Club Meeting

The French Group of BNL will gather for a social evening on Thursday, February 12, at 8:00 p.m., at the Recreation Building in the Apartment Area.

There will be a showing of slides from France presented by Jim Ho of the Physics Department, who recently returned from an extended stay in Europe.

Do join us for this lovely tour from Paris to Dijon, down to the Riviera. Refreshments will be served. Donation \$1.00 for nonmembers.

Bank Notice

The Bankers Trust of Suffolk on site will be closed on Thursday, February 12, Lincoln's Birthday.

Mother Nature Frowns On Bicycle Club Meeting

Not only did the ground hog miss his shadow, but a half day Lab snow closing resulted in poor attendance at the Bicycle Club meeting on February 2. A second try is scheduled for Tuesday, February 17 at 12:30 p.m. in Room A in Berkner Hall. Both racers and tourers are urged to attend and help organize a schedule of races and tours for the coming season.

Official & Special Events

Wednesday, February 11 Navy Meeting Thursday, February 12 Lincoln's Birthday

Monday, February 16 Holiday - Washington's Birthday Wednesday, February 18 Navy Meeting Thursday, February 19 Long Island Bone Metabolism Meeting -Room C - Berkner Hall

O BROOKHAVEN BULLETIN

Published Weekly for the Employees of **Brookhaven National Laboratory**

BERNICE PETERSEN, Editor

Doug Humphrey, Photo-Journalist CAROL GOLDSTEIN, Copy Preparation

40 Brookhaven Ave. Upton, N.Y. 11973 Telephone 516 345-2345

CARL R. THIEN, Public Relations Officer

Arrivals & Departures

Arrivals

Judy C. Ferrero	Accelerator
Emilie Gerard	Medical
Andrew H. Kuniyuki	Biology
Vincent Lettieri	Mech. Engrg.
Robert M. McClafferty	Plant Engrg.
Kathleen A. Persek	Photo. & Graphic Arts
Jerome D. Quigley	Plant Engrg.
Peter S. Rudman	App. Science
Oscar Sanchez	Plant Engrg.

Departures

Joseph H. Stakes

Yoga Classes

Yoga classes will be held on Wednesday evenings from 5:30 to 6:30 p.m. in the Recreation Building starting on February 18. A fee of \$20 for the 10-class series will be due at the first session.

For reservations call Eena-Mai Franz, extension 4337, or Gay Levine, 929-8725. Keeping fit is not for women only!

Selected Reading

New Sci. 68, December 11, 1975

'A roving plumber' behind professor Otto Frisch FRS, the real Robert Frisch. R. Walgate. 644-

Science 190, December 26, 1975

The Haemmerli affair: Is passive euthanasia murder? B. J. Culliton. 1271-5

Somber reflections on congress by a retiring member. L. J. Carter. 1276

Science 191, January 30, 1976

Science in the public forum: Keeping it honest. A.M. Weinberg. 341

Ruckelshaus: What happened to Mr. Clean? C. Holden, 361-2

Sci. Gov. Rep. 6, January 15, 1976

Congress creates high-powered science-policy group. D.S. Greenberg. 1-2 New president states rousing plans for AAAS.

D.S. Greenberg. 5-7

Trip To New York City

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, March 3. Departures will be 8:59 a.m. from the LIRR station in Patchogue. The round trip fare for adults is \$2.45; children under 6 years ride free.

There are some tickets still available for a two-hour backstage tour of the Metropolitan Opera House on March 3, beginning 3:45 p.m., at a cost of \$4 for each non-Guild member. Opera Guild members pay only

Send your money for either event, or both, to Ruth Dimmler, BNL Hospitality, P.O. Box 322, Upton, N.Y.

Soccer

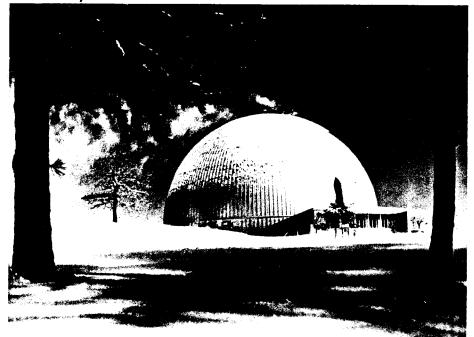
PHY-AMD-INST are comfortably at the top of the league entering February. AGS obtained 3 goals from Rafferty, Keane, and Fleischman, as well as good defensive play by Halliwell to offset 2 goals for the PHY-AMD-INST by Emery. AGS was in excellent position to gain ground if they then could get by the cellar dwelling DAS-CHEM-MED squad. DAS-CHEM-MED however played their role of spoiler well. AGS could not solve the scoring problem as Saklyo turned them back several times in one-on-one situations.

In the second half, Isaacs scored on a rebound to give DAS-CHEM-MED their third victory of the year over AGS. DAS-CHEM-MED then continued their strong defensive play against PHY-AMD-INST, but were equally matched as both teams had to settle for 0-0 tie.

League Standings

	W	L	T	Pts
PHY-AMD-INST	10	3	7	27
AGS	10	9	1	21
DAS-CHEM-MED	3	11	6	12

Winter Drops A Bundle



The High Flux Beam Reactor silhouetted in the snow and beautifully recorded on film by Mort Rosen. According to many reports the groundhog saw his shadow on February 2, and we can expect winter to continue for another 6 weeks. All one of our meteorologists will say is that this winter is closer to normal than the four previous mild winters, and no one can really predict what will happen – not even the groundhog.

Bowling News

Cathy Van Noy

Ping League

The "Pinsplitters" are still holding third by three points with the "Spares" in second and the "Fiscal Assets" in third. Helen Keeley converted the 5-10 and Lindora Boyd converted a nice split which I missed. High games for the evening went to Cathy Van Noy with 195-184-179 for a 558 scratch series. Marie Brenner had a nice game of 185.

Black N Blue League

The "Question Marks" are two points ahead of the "Fudpuckers" as we approach the 8th week of the second third. A reliable source on the "Fudpuckers" said their captain may soon be put out on waivers. A Big "Congratulations" to Renee Flack who rolled three 157 games to win her triplicate award from WIBC. Pat Lebitshi made it look easy as she converted the 6-7-10 split. High games were Charlie Tomesch 204 and Pat Lebitshi 178. Pots were won by Howie Bell 242 and Pat Lebitshi 231.

Wanted

A Bevy of Brookhaven Beauties and Gorgeous Guys for Charlie Brown's lemonade stand (in the lobby) and Scene Stealers (backstage crew). Call Ruth Galvin, Ext. 2867.

Carl Goodzeit as Linus

Red League

"Congrats" this week to J. Roesler for his 216 game, 592 scratch and 679 gross for a club award. J. Sheehan missed a club award by 10 pins. Other nice games were Joe Scesny 226, Walt Reams 204 and Ken Riker 200.

Purple and White League

The opening of the first new round found 4 teams winning seven points for a four way tie. V. Walker had a nice evening rolling a 175-455 scratch and 665 gross which is the new league high. Betty Roche rolled a nice 168. For the men, Jon Scott broke records with a 209-246 for a 654 scratch which is the new high single and triple.

The following week found the "Sea Gulls" off to an early lead by taking another 7 followed by the "Alley Oops" who have a 12-2 record. Betty Roche rolled a nice 199-469 scratch which is a new high. Other nice games were rolled by Marie Turano 164 and Marge Belligan 163. Bob Brown won his club award with a 690 gross, Jon Scott 215-552, Art Lipman 214 and Jim Petro 205.

The BNL tournament will be over when this edition reaches you but I hope that each league has at least 90% participation. The Purple and White League had 70% at the last count and the Pink League had 99%. The Black N Blue League had about 50% at last count. We may not all be winners in this tournament but it should make you feel good that you, along with thousands of bowlers all over the states are helping a disabled veteran because he helped you.

Monday Morning Blues

Many people were still snug in their beds last Monday at 6 a.m. when the rain suddenly turned into snow and near-gale winds started turning everything and everyone in the area upside down. At Brookhaven, the temperature then was 32°; by 7 a.m. it had dropped to 23°; by 8 a.m. to 16° and at 9 o'clock it was down to 11°.

Although notice had been given to most radio stations that the Lab would not open until 10 a.m., and a subsequent notice that the time had been extended to noon, there was a general snafu in communications. Some stations had the notice on the air by 7 a.m., another broadcast it about 8:15 when some hardy souls were already slipping and sliding to work. According to reports, one station even said that the Lab was closed all day. Some radio stations were impossible to reach because of the flood of callers cancelling various activities.

In any case, officially the Lab resumed normal operations at noon.

Because of the confusion, the Director has decided that employees will be paid as if the Laboratory was on Emergency Operational Status from 0800 to 1200. The rules for payment are in accordance with the Supervisors' Personnel Manual, Section 15.

Employees who could be spared will suffer no loss in pay because of their being released at 1600. Employees required to work beyond 1600 but within their scheduled workday will receive no additional pay.

According to on-site police, the electricity went off in the apartment area around 1 a.m. Monday and linemen worked through the night. There were other power "dips" in various places at the Lab about six hours later. Snow removal crews were on the job early in the morning and Lab roads were negotiable for those who made it to work.

Volleyball

Mixed League Results - Week of 1/26				
Medicine Ballers	2	High Balls	1	
Diamonds	3	Spikers	0	
Terabits	3	Set Ups	0	
Trolls	3	Nuts & Bolts	0	

Mixed Le	ague	Standings
----------	------	-----------

	Wins	Loses
Terabits	25	2
Trolls	23	4
Set Ups	16	11
Nuts & Bolts	14	13
Diamonds	13	14
Medicine Ballers	7	20
Spikers	6	21
High Balls	4	23

Men's League First Round Results

Cool Tools (Winner)
Spikers
Atom Spikers
Busters
Easy Aces
Circuits

Slo-Break Basketball

Dr. K

The first game of the double header on January 22 was decided by the size advantage enjoyed by the Spuds who defeated the Persuaders 60-48. The starting forwards and center of the Spuds tallied 53 of the 60 Spud points. This terrible threesome consisted of Dennis Nordstrom (20 points), Jeff Gaffney (18 points) and Bob Dory (15 points). The Persuaders played gallantly led by Jim Garrison with 18 points. LeRoy James and Brant Johnson added 12 points apiece to the Persuaders total.

In the second game the Browns met the Condors in a hard fought contest between the League's cellar dwellers. Even double teaming did not dull the Moose's antlers as he scored 29 points in the 57-52 Brown victory. Fox Smith was the other Brown in double figures with 13 points. Mac Thomas and Mike the Spike Dagg had 13 and 12 points for the Condors. Dr. K barely stitched up 10 points. Bob Brown came off the bench and gave the Condors 9 points.

In the first game of the double header on January 29, a hale, healthy and hot Spuds team trounced the gallant but hurting Persuaders 75-52. The Spuds were led to victory by Dennis Nordstrom with 28 points, Jeff Gaffney with 18 points and Bob Dory with 16 points. The Persuaders, although lacking several key players, attempted to pull victory from the jaws of defeat. Wayne Smith played excellently with 20 points as did Jim Lynch with 12 points. At the end of the first quarter Les (L-cubed) Lawrence emerged from a phone booth with his gym shorts and sneakers on, and contributed 8 points. Brant Johnson rebounded, played defense and put in 8 points in this losing

In the second game of this double header, the Condors massacred the Browns 69-45. The Browns had the antlers taken out of their offense by the absence of the Moose, still had some teeth in it, as Fox Smith scored 19 points. Pete Stillman went into double figures with 10 points. Dave (OJ) Tang and Alex Pittmen contributed 6 points apiece. Scoring for the Condors was provided by the outside shooting of Jim Vaughn with 17 points and Mike the Spike Dagg with 22 points. Dr. K operated on the inside and put in 11 buckets (22 points) and was so happy he even took a shower afterwards.

The four highest scorers at the end of the first half were:

Player	Games	Total Pts.	Pts./Game
Moose	5	168	33.6
Gaffney	6	126	21.0
Nordstrom	6	122	20.3
Vaughn	7	92	13.1
Dagg	6	91	15.2

Peanuts Gang On Stage

"You're a Good Man, Charlie Brown" comes to Stage Two (Exhibit Hall) on February 13, 14, 15, 20, and 21 at 8:30 p.m. with a matinee at 2:30 p.m. on the 21st.

The cast of the show, directed by Ruth Galvin, includes: Carl Goodzeit, Accelerator, Linus; Bob Kinsey, DAS, Charlie Brown; Bill Love, Physics, Schroeder; Bonnie McNair, Lucy; Jane Love, Patty; Bruce Martin, Applied Math, Snoopy; and Sharon Smith, Physics, The Little Red-Headed Girl.

Pianist Nancy Bernius and percussionist Bill Trigg will provide the music for the singing and dancing. And songs – twelve in all – include "Snoopy," "The Red Baron," "Baseball Game" and "Suppertime."

Children will be delighted with the cast's portrayal of the characters from Charles Schulz's comic strip "Peanuts." Parents are urged to bring them. The matinee on Saturady, February 21, is being scheduled for

the children who find the 8:30 p.m. performance beyond their bedtime. At the matinee, during intermission, a clown will entertain the children.

Tickets are priced at \$2.00 for BNL employees and others. Children under 18 and adults over 65 will be admitted for \$1.00. Tickets may be obtained from Blanche Laskee in Personnel, Rita Straub in Medical, Pat Towey in Physics, Eena Mai Franz in Chemistry and at the Cafeteria during lunch



Jane Love as Patty, Bruce Martin as Snoopy.



Bob Kinsey as Charlie Brown, Bonnie McNair as Lucy.

Cafeteria Menu Week Ending February 13, 1976

Monday, February 9	
Corn Chowder	
Beef Liver & 1 veg.	1.05
Scrambled Eggs, Sausage & fr. fr.	1.05
Tuesday, February 10	
Beef Noodle Soup	
Sauerbraten & Potato Pancake	1.25
Baked Lasagna & 1 veg.	1.15
Wednesday, February 11	
Cream of Potato Soup	
Beef Chop Suev on Rice	1.05

Saga Steak Special

Choice of Cup of Soup or Small Juice

½ lb. Broiled Shell Steak

Baked Potato w/ Treat & Chives

Choice of One Vegetable

Plain Jello or Ice Cream

Small Beverage

\$2.34 plus tax

Thursday, February 12 Chicken Vegetable Soup Cheese Ravioli & 1 veg. 1.00 Roast Chicken w/Stuffing & 1 veg. 1.10 Friday, February 13 Clam & Celery Soup Spaghetti w/Clam Sauce 1.00

Breaded Pork Chops & 1 veg.

Due to the shoe fitter's vacation, safety shoes will not be issued on February 9 and February 12.

Classified Advertisements

Placement Notices

Each week the Personnel Office lists personnel placement requisitions, currently being processed. The purpose of these listings is, first, to give notice of all non-scientific staff positions being filled and, second, to give employees on opportunity to request consideration for themselves through the Personnel Office. In filling vacancies, the Laboratory's objective is to give first consideration to present employees, as follows: employees within the immediate group having the vacancy, employees within the department or division, employees within the Laboratory as a whole.

For further information regarding a placement notice, or to request consideration for an available position, contact Supervisor, Personnel Placement & Development, extension 2874 or 2882.

- 25. GENERAL SUPERVISOR Electrical Maintenance and Operations. Plant Engineering Division.
- $26.\ SECRETARY$ Part-time temporary position. Director's Office.
- 27. KEYPUNCH OPERATOR Evening shift. Temporary position. Applied Mathematics Department.
- 28. COMPUTER OPERATOR Shift work. Applied Mathematics Department.
- 29. OFFICE SERVICES ASSISTANT Temporary position. Department of Applied Science.
- 30. ENVIRONMENTAL SCIENCE ASSOCIATE BS or equivalent in environmental science to assist in assessment of health effects of energy production and use. Department of Applied Science.
- 31. TOOL & INSTRUMENT MAKER (Group Leader) Radioactive machining area. Application Deadline: February 17, 1976. Central Shops Division.
- 32. TECHNICIAN (2) Three years experience in mechanical technology or equivalent education and a good knowledge of chemistry and radiation safety. Hazardous Waste Management Group. Safety & Environmental Protection Division.

Autos & Auto Supplies

68 MERC MONTEGO - Wagon, 302 V8, auto, ps, trailer hitch. \$500. Ext. 4547, 265-3731.

2 TIRES - F78-14 glass belted 6-ply w/w. \$36. Bill

DeCaro, Ext. 3354.
75 IH SCOUT - 3 spd, 4 wheel drive, 4 cyl, excel on gas, 7000 mi, 4 mos old, leaving town, cost \$5400,

sell \$4500. 477-0658.

TIRE - 645-14, polyester cord, black wall. \$5. Bill

DeCaro, Ext. 3354.
67 OLDS 98 - Luxury sedan, ac/ps/pb, power an-

67 OLDS 98 - Luxury sedan, ac/ps/pb, power antenna, seat, rear defroster, am/fm stereo radio, tilted steering wheel, cruise control, trailer hitch. J. Markott, Ext. 2011.

67 PLYMOUTH WAGON - Running cond. \$200 or best offer. Pat Drell, 924-4496.

68 MERC CYCLONE GT - 390 V8, ps/p disc brakes, good cond. \$750. Bill, 878-4525.

68 FIAT 124 - Wagon, body fair, interior clean, good solid trans, good mpg. \$550. Martin Sautter, 924-3338

66 VW BUG - Basic transportation or parts, lots of body rot, reblt 1300 eng w/20,000 mi. Osgood, Ext. 3978, 286-2561.

73 VW SUPER BEETLE - Auto, 30,000 mi in mint cond, extra wheels w/snows. 585-4176.

 $2\,15^{\prime\prime}$ RIMS - 5-hole from Ford, \$7/pr. Bob, Ext. 4551.

73 CHEVY - $\ensuremath{\mathcal{V}}_2$ ton pickup, standard trans, 35,000 mi, new clutch, V8, good tires, am/fm, clean. \$2400. 289-7453.

67 FORD FALCON - Station wagon, has snows. \$250. Kim, Ext. 3734/4404, 929-6413.

75 CZ MOTORCYCLE - 175 cc street bike, \$450 or

best offer. 325-0655.

63 CHEVY WAGON - Auto, 6 cyl, good second car. \$200. Brian, Ext. 4613.

69 MUSTANG - Convertible, ps/radio, 43,000 mi, excel mechanically. \$1095. 475-4394.

TIRES - 685-15" (3); 645-13" (3), reasonable. 475-

0144 after 6. 4 RIMS - 73 Pontiac Rally II, 15", fits Grand Prix or

Chevy. \$80. Donald Palmore, Ext. 4207, 727-5158. WHEELS - 15x5½, Ford, 67-76, new w/valves. \$10 for 2. Paul, Ext. 3277.

73 CHEVY PICKUP - $\frac{1}{2}$ ton, standard trans, 35,000 mi, V8, good tires, am/fm, clean. \$2400. 289-7453.

Boats & Marine Supplies

9' SAILING PRAM - W/gaff rigged mast, sail, etc. \$175. Bill Espensen, Ext. 3992.

18' SHARPIE - 7' wide, self-bailing, cockpit, teleflex steering, new cabin, extras, like new. 475-9343.

OUTBOARD MOTOR - 1958 5.5 Evinrude, just reblt, excel cond. \$65. Roger, 363-6521.

26' OWENS - Double planked hull, 6 cyl, flagship engine, sleeps 6, needs some work. \$600. Bill, 878-4252 after 6.

ICE BOAT - Frostfish, w/sail. \$50. 878-2067 after 6.

Miscellaneous

1.25

TYPEWRITER - Royal manual portable, \$35; maple knee-hole desk, 6 drawers, \$30. 878-0123 after 5.

MAPLE SET - 3-piece early American, sofa bed, chair, rocking chair, ideal for play rm. \$100. Paul, 878-1486.

AQUARIUM - 10 gallon, all glass frameless w/power filter, non-corrosive fluorescent light, gravel, imitation plants, all in excel cond. \$20. 727-3608.

RIDING LAWN MOWER - $3\frac{1}{2}$ hp; gas cement mixer, elec 8' baseboard heater. $28\frac{9}{2}$ -0243.

HOUSE FURNISHINGS - Including living rm, dining, bedrm, etc. 289-0243.

RIDING CLOTHES - Jacket, pants, hat & crop. 286-8835.

SEWING MACHINE - W/attachments, Kenmore model 86, 4 yrs old but like new, rarely used. \$75 or best offer. Ext. 2971.

PHONO CARTRIDGES - Shure V15 type II, Stanton 681 EE, slightly used, \$10 each. Ext. 3828, 751-7250.

ICE SKATES - Black, size 5, Riedel shoe w/skate covers. \$8. Fred, Ext. 4407, 864-1214 after 6.

TRAILER - Utility & camper, Sears, good for small car, good cond. \$225. Bill, 878-4525 after 6.

good cond. \$225. Bill, 878-4525 after 6.
SET OF CHINA - Service for 8, slightly used. \$12.

Les, Ext. 4074.

ACCORDIAN - W/carry case. \$65. Les, Ext. 4074.

SKI BOOTS - Child's size 2, rubber, buckle type. \$9. G. Irving, Ext. 2318.

FREE HAMSTERS - 3 months old. Ext. 4386, 673-9438. SCANNER - Regency, 10-channel receiver, hi/lo VHF, UHF, ac/dc operation w/9 crystals. \$125. Marty,

Ext. 4660, 661-0089.

PEUGEOT - PX 10 E, 23½", Reynolds, dbl-butted frame, cotterless cranks, tubulars, very light, excel for racing or touring needs seat. Days. 286-0880

for racing or touring, needs seat. Dave, 286-0880. ROCKING CHAIR - Maple w/cushions, \$12; regina elec broom, needs work, \$4; floor fan, \$10. 928-7168.

WASHER - Hotpoint, good cond, \$85; GE dryer, old but still runs well, \$45. 928-7168, after 6.

17" B&W TV -Zenith, 5 yrs old, very good cond. \$30. Ken, Ext. 4003.

BICYCLE - Men's 27" Raleigh Grand Prix, excel cond, 9 months old. Anthony, 286-1292.

ANTIQUE BEDRM SET - Mahogany bed, dresser &

vanity, both w/mirrors. Linda, Ext. 3381.

74 WILSON CAMPER CAP - Fits 6' truck, inside finished. 878-4193 after 5.

KEROSINE HEATER - Sears, approx 12"x12"x32" high, will heat 2-car garage, good cond. Paul Sparrow, Ext. 4662, 727-4859.

CB RADIO - Realistic Navaho, base or mobile. \$110. John, Ext. 3354.

John, Ext. 3354.

RECEIVER - Hammarlund HQ 100A, all hf bands, very

good cond, matching speaker. Only \$80. L. Honikel, Ext. 3617.

PENTAX CAMERA - SLR 35 mm, excel cond, w/55mm

PENTAX CAMERA - SLR 35 mm, excel cond, w/55mm & 135 mm telescopic lens. \$150 firm. L. Honikel, Ext. 3617.

OSCILLOSCOPE - EICO, model 460, 5" wide band, list \$189.95, Heathkit EF-2 test chassis & all instructions, all in new cartons. \$140 takes all. D. Vail, Ext. 2046.

VOLT/OHM MULTIMETER - EICO model 565. \$30. D. Vail, Ext. 2046.

SAFETY CAR SEAT - Blk vinyl. \$15. Frank, Ext. 2311. POOL TABLE - Brunswick slateen, 4x8, \$100. J. Bennett, Ext. 4129, 744-1845 after 6.

TENNIS RACKET - Davis, hi-point 1L, 4½, used 1 season, new grip. \$20. G. Irving, Ext. 2318.

2 PLANT HANGERS - \$3. 744-5871.

DUST COVER - For record player, Lafayette, \$3; pull down light fixture w/out glass, \$4/w/glass, \$5, coppertone color. 744-5871.

MEN'S SHIRTS - Never worn, long sleeve brown 15-33; long sleeve white 15-34; half sleeve green 15: \$3 each. Ext. 3609.

CAMERA - Nikon F body, 74 model \$325, w/Nikon sc 1.4 lens, \$400. Mike, 878-2486.

HO TRAINS - 7 locos, 35 cars, 11 switches, triple pwr 5x9 layout, many extras, \$250, no reasonable offer refused. 744-3312.

SPRING COAT - Size 12, \$12, Ext. 3609.

DBL BEDSPREAD - Black & white small floral, used 2 months. \$10. Gail Williams, Ext. 3338.

REFRIGERATOR - Frigidaire, about 12 cu ft. \$50. must sell. J. Leong, Ext. 3225/4815.

INFANT CAR SEAT - Good cond, \$8. Vicki, Ext. 2902, 744-8765 after 6.

SCOTS SPREADER - \$10. 744-2493.

CASTRO OTTOMAN - Opens to a single bed. \$25. 744-2493.

PERSIAN LAMB COAT - W/mink collar, full length, size 12-14. \$100. 744-2493.

SKIS & BOOTS - For child, buckle boots, size 4 & 4½'

skis, \$10. Vicki, Ext. 2902, 744-8765 after 6.
FIGURE SKATES - Women's white, size 6, insulated,

used twice, excel cond. \$8. Paul, Ext. 3277.

DRESSER - W/round mirror, queen bed w/box spring, mattress & headboard, \$150; Eureka vacuum cleaner,

\$10; blue carpet, 14x18, \$100. 281-1559.

CHINESE BUTTERFLY HARP - New cond. Asking \$100. Joe, Ext. 4069.

VIOLIN - ¾ size, excel cond. \$85. Joe, Ext. 4069.

PLUMBING TOOLS - Many rigid wrenches, cutters stand, etc. \$25 takes all; auto polisher, \$20. Fred, Ext. 4597. 475-4935.

ICE SKATES - Men's figure, size 7, never used, \$10. Walt, Ext. 4597.

BATHRM SINK - Beige, free standing, \$15; wrought iron rm divider. \$5 Fred Ext. 4597, 475-4935.

iron rm divider, \$5. Fred, Ext. 4597, 475-4935.

BICYCLE - Girl's 20", good cond. \$40. 281-9715.

TABLES - 2, \$6 each; lamp, \$3; bookshelves (2), \$5 each; 9x4 rya rug, \$8. Kim, Ext. 3734/4404, 929-6413. FAN - Bradford, 3 spd, \$5. Kim, Ext. 3734/4404, 929-6412

PING PONG TABLE - \$10; picnic table & benches, \$7. Kim, Ext. 3734/4404, 929-6413.

MEN'S BIKE - \$8, stroller, \$3. Kim, Ext. 3734/4404, 929-6413.

HUSH PUPPIES - Brown leather, never worn, men's 9M. \$15. Susan, Ext. 3609.

KITCHEN STOVE - Combination, $\frac{1}{2}$ gas stove & $\frac{1}{2}$ kerosene space heater. \$25. G. Irving, Ext. 2318.

FIGURE SKATES - Black, size 3, new, used once. \$10. G. Irving, Ext. 2318. NEW POLAROID - Portrait camera, split image,

magicube flash. A. Campbell, Ext. 3354, 727-7115 after 6.

8 MM MOVIE CAMERA - Elec eye, reverse power, zoom, 9mm wide angle to 30 mm telephoto w/1.8

raptar lens. Al Campbell, Ext. 3354, 727-7115 after 6. ACCORDIAN - Dick Contino model, Settimio soprani, ruby frosted pearl w/case, 2 registers, 3 shifts on keyboard. Al Campbell, Ext. 3354, 727-7115 after 6. BABY ITEMS - Crib, mattress, carriage, etc. Best offer. 744-2493.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed or national origin of the applicant.

For Sale

CENTER MORICHES - 2 bldg lots, 100' front x 175' deep, near shopping, schools, marina. \$10,500 each. 878-2936.

NORTH SHORE - 3 bedrm, 1½ baths, partially finished cellar, knotty pine interior, fireplace, 20'x30' garage w/pit, 23,000 btu ac, appl, 20 min to Lab. \$246 taxes, \$30,000.744-3312.

MASTIC - 3 bedrm ranch, second mortgage available. Asking \$32,000. 696-4197.

CENTER MORICHES - 7 rm house, full cellar, 4 rms downstairs, 3 rms upstairs, 2 baths, garage, breezeway, cyclone fence, hotwater heat, storm windows. 878-0237.

MEDFORD - Birchwood Blue Ridge, kitchen, dining, living rm, bedrm, w/w carpet, dryer, washer, thermopane windows, screens, cent ac, patio, clubhouse, pool, golf, tennis, below-cost. \$30,500.732-5252.

BELLPORT - 5 bedrm, 2½ baths, Franklin stove, screened porch, unfurn, 1½ acres. S. Country Rd, \$350/month or \$55,000. Ext. 2057, 286-1091.

VILLAGE OF SHOREHAM - Large ranch on beautiful rolling wooded acre, living rm, dining, kitchen, dinette, den w/stone fireplace, 3 bedrm, 3 baths, 2-car garage, extras, must be seen. \$92,000. 744-2493.

For Rent

WADING RIVER - Large 1 bedrm furn apt, util incl, priv beach, 15 min to Lab, north shore. \$250/month. 929-8443.

LAKE RONKONKOMA - Apt in 2 family home, 3 rms, ac, balcony, unfurnished, util incl. \$220/month. 585-4038, 588-4131.

MASTIC - 3 bedrm ranch. \$325/month + util. 696-4197.

FURNISHED RM - Good area, off-street parking, private, suitable congenial mature woman. 475-2627 after 6.

VERMONT VACATION - 3 bedrm mobile home w/ fireplace on 10 acres, 10 min from Okemo Mt. close to 7 major ski areas, weeks or weekends. Bob, 473-8186.

2 BEDRM DUPLEX - W/basement, 5 min to Lab, \$280/ mo incl heat & hot water. 581-2909.

Wanted

15" WHEELS - 2 for 73 Ford wagon. Frank, Ext. 4753. MUSHROOM ANCHOR MOORING - 150-200 lbs. Joe, Ext. 4069.

CLARINET - Good cond, reasonable price. Pat, Ext. 4255, 929-4942.

ICE SKATES - Girl's size 7, boy's size 5. 298-4089.

FEMALE ROOMMATE - To share furnished 2 bedrm apt in Commack. Debbie, 543-6874 after 7.

AM/FM CAR RADIO - In dash. Tom, Ext. 3866.

SHOP MANUAL - For 1971 Ford Mustang. Stve, Ext. 4507, 285-8952.

PEOPLE - To join group to see Pippin/Wiz/Same

Time Next Year on March 6. Cathy, Ext. 2456, 732-6262.

TRAVELER TO INDIA - Willing to take small package of plant material for experimental use. Sparrow, Ext.

3380.
CHAIN - For Anchor Buoy, ½" or ¾", not less than

25'. Art, Ext. 4312.
PHONO RECORDS - Early 50's & 60's. D. Vail. Ext.

LEAD GUITAR - To play w/rock band. Ray, 878-2486. WOMAN TO CARE - For 2 children in Bellport home Wed-Fri. 286-1309 after 4.

Car Pools

BELLPORT - Need rides to & from Bellport, flexible hours, 9-6, share gas. Ext. 3766, 286-0123.

MILLER PLACE - Driver needed for already existing 3-person car pool. Ext. 3609.

GLEN COVE - Or vicinity, help!, occasional car pool needed. Please call Lore Holmes, 671-3975.

BOHEMIA - Need a ride. Pierre, Ext. 2021.

Lost & Found3 RING BINDER - Loose-leaf, blue cover, contains

numbers, graphs on pion contami, lost at CDC users rm, eve or Feb 23. Nakano, Ext. 3983/4618.

LOST - 63 VW bug plate NY 766 AQD, black body

w/yellow campaign sticker "Regina Seltzer" on back. Lin, 744-6910.

Services

DOG TRAINING - Phil Warner, 721-1218 days.
TAXES - Prepared by professional tax consultant, your home or mine. Ext. 3592.

PRESSED CANING - On old chairs, some repairs. 363-6597.

WILL BABYSIT - My home, lunch & playmates. Shirley

Krug, 924-3228.

INCOME TAX - Prepared in the privacy of your home

by qualified tax consultant. 363-2765. ICE SKATES SHARPENED - Ted, 589-2470.

TYPING - All sorts, reasonable. Ext. 3609.

INFANT CARE - Mother will care for infant in her

home. 727-4859, Mrs. Sparrow.

POTTERY CLASSES - 878-1958.

CHILD CARE - At my house, Miller Place/Sound

Beach area. Ext. 2901.

CORD WOOD - Split & delivered, \$70/cord, half

cord, \$40. 727-1329. INTERIOR PAINTING - 751-6431.

BABYSITTING - My home, day or night, week days or weekends, good atmosphere, reasonable. Claire, 289-0633.

Classified Ad Policy

Deadline is 12 noon Monday for publication Friday of the same week.

signature.

- The Brookhaven Bulletin's classified section may be used only by active and retired Laboratory employees.
 All items for sale or rent must be the advertiser's
- 3. Ads for material acquired for resale in association with a full or part-time business cannot be accepted.
- Firearms offered for sale or trade may not be brought n site.
- Ads not carried because of space restrictions will be held for publication in the next issue.
 Ads are run only once and must be resubmitted if they are to be repeated.

7. Ads should be restricted to 20 words or less and typed or

printed on the form provided, and must bear the employees

For Sale: Auto & Auto Supplies Wanted
For Sale: Boats & Marine Supplies Carpools
For Sale: Miscellaneous Services

Check 🔀 the heading applying to your ad. Print or type your ad in 20 words or less.

Ads concerning property for sale or rent cannot be accepted on this form. Special Real Estate Ad forms are available at the Office of the Brookhaven Bulletin, Room 111, 40 Brookhaven Avenue.